CABINET LAMP

FIELD OF THE INVENTION

The present invention relates to lamps, and more particular to a cabinet lamp, wherein the light emitting body can be updated easily and the wire arrangement therein is simple.

BACKGROUND OF THE INVENTION

A prior art cabinet lamp, as disclosed in USP 6,565,234B1, "Counter light fixture", includes a casing, a movable isolating plate, a reflecting mask, and a transparent plate. In the prior art, the transparent plate is fixed by screws. When the screws are detached, the transparent plate can be detached and then the movable isolating plate is removed rapidly. The fixing of the isolating plate is not performed by screws, but protruded buckling sheets at the upper and lower distal ends thereof are buckled into the slots of metal ears of the casing. Furthermore, the isolating plate can be detached or assembled rapidly by using fingers. Therefore, the halogen lamp within the casing can be updated rapidly.

Since the cabinet lamp is installed at an edge or a top of a cabinet or an exhibition cartridge, as the lamp tube or bubble therein is updated, the fixing screws must be detached so as to draw out the transparent plate, as shown in Fig. 1. The angle and elevation of the cabinet lamp 10 must match the configuration of the cabinet 100. However, the prior art transparent plate cannot be detached or assembled easily. Moreover, when the lamp tube or bubble is updated, the transparent plate must be re-assembled. Furthermore, the operation of screwing is inconvenient so that the glass of the transparent plate is possible destroyed. Thereby, an accident is possibly occurred due to an improper storage or position.

Moreover, the power source of the cabinet lamp is guided by a power wire

at a backside of the cabinet lamp. If a plurality of cabinet lamps are arranged within a cabinet, all the power wires of the cabinet lamps are concentrated so as to make the arrangement of the circuit become very complicated. Thereby, it is difficult to install a plurality of power wires within the cabinet. Furthermore, this induces the difficult in the power supply and distribution.

Furthermore, some cabinet lamps are installed with halogen lamps. To make the light and heat of the halogen lamps to be emitted downward, a flat retaining sheet is installed on the inner wall of the casing and above the halogen lamp. A reflecting mask is installed below the retaining sheet. The reflecting mask, casing, and retaining sheet are fixed by rivets. Since the reflecting mask has a cambered shape, when the halogen lamp is replaced by a fluorescent light, the fluorescent light cannot match the cambered shape of casing.

SUMMARY OF THE INVENTION

Accordingly, the primary object of the present invention is to provide a cabinet lamp, wherein no screw is used in the assembly of a transparent plate. Not only the assembly work can be performed easily, but also the problem of losing screw is avoided.

Another object of the present invention is to provide a cabinet lamp, wherein the swinging of the transparent plate is not separated from the cabinet so as to protect the transparent plate in safe environment.

A further object of the present invention is to provide a cabinet lamp, wherein power wires of a plurality of cabinet lamps can be serially connected so that the wire arrangement of the cabinet lamps can be performed easily and the arrangement has a simple configuration.

A yet object of the present invention is to provide a cabinet lamp, wherein the reflecting mask used in the present invention is made of wide flat plate which can be used with any kind of light emitting body so that light and heat

from the lamp can emit downwards.

To achieve above objects, the present invention provides a cabinet lamp which comprises a mask, two clamping seats at two sides of the mask; each clamping seat having a recess at an inner rear side thereof; a front end of a lower side of each clamping seat having a long trench; a lamp frame behind the mask; a light emitting body being installed to the lamp frame; a reflecting mask within the mask; a transparent plate connected to and below the mask; each of two sides of the rear end of the transparent plate being formed with a block; each block having a stud for being inserted into a recess of one corresponding clamping seat; and a circuit box. The stud is swingable and slidable in the recess. A front end of the transparent plate is capable of moving into the two clamping seats along the trenches of the two clamping seats so as to position the transparent plate. When the transparent plate moves backwards, the front end of the transparent plate separates from the recesses and the transparent plate is swingable around the stud so that a bulb or a lamp tube within the cabinet lamp is detachable.

The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic view about the cabinet lamp of the prior art.

Fig. 2 is an exploded perspective view of the cabinet lamp of the present invention.

Fig. 3 is an exploded perspective view of the cabinet lamp of the present invention.

Fig. 4 is an assembled perspective view of the cabinet lamp of the present invention.

Fig. 5 is another assembled perspective view of the cabinet lamp of the

present invention.

Fig. 6 is a cross section view of the cabinet lamp of the present invention.

Fig. 7 is a schematic view showing the operation of the transparent plate of the present invention.

Fig. 8 is a schematic perspective view showing the opening operation of the transparent plate of the present invention.

Fig. 9 is a schematic view showing the circuit arrangement of the cabinet lamp of the present invention.

Fig. 10 is a schematic view showing the connection of the cabinet lamp of the present invention.

Fig. 11 shows another embodiment of the present invention.

Fig. 12 is a schematic view showing the circuit arrangement of the halogen lamp in Fig. 11.

DETAILED DESCRIPTION OF THE INVENTION

In order that those skilled in the art can further understand the present invention, a description will be described in the following in details. However, these descriptions and the appended drawings are only used to cause those skilled in the art to understand the objects, features, and characteristics of the present invention, but not to be used to confine the scope and spirit of the present invention defined in the appended claims.

With reference to Figs. 2 and 3, the exploded perspective views of the cabinet lamp of the present invention are illustrated. The cabinet lamp 10 includes a mask 1, two clamping seats 2, a lamp frame 3, a reflecting mask 4, a transparent plate 5, and circuit box 6. Figs. 4 and 5 are the assembled view of the cabinet lamp.

With reference to Figs. 2, 3 and 6, Fig. 6 is a cross section view of the cabinet lamp of the present invention. The mask 1 is made of a metal plate which is painted with paints. A front end of the mask 1 is formed as an

inclined surface 11, a top thereof is a plane 12 and a rear side is a vertical surface 13. An air vent button 14 is formed on the plane and an edge of the air vent button 14 has crack 141. The plane 12 is installed with a cruciform slot 15. The vertical surface 13 has another air vent button 16 has crack 161. By the cracks 141, 161, hot air within the mask can be vented out. If the air vent buttons 14 and 16 are removed, the air vent effect is preferred.

Next, the two clamping seats 2 are made by plastic injection, which are installed at two sides of the mask 1. An inner surface thereof has a groove 21 for connecting the inclined surface 11, plane 12, and vertical surface 13. A top inner surface thereof has a top plate 22. The top plate 22 has a through hole 23 corresponding to the cruciform slot 15. Thereby, the cabinet lamp 10 can be suspended by screws. The top plate 22 is fixed to the mask 1 so as to combine the two devices. Besides, an inner lower edge of each clamping seat 2 is installed with a trench 24 and a front lower edge of each clamping seat 2 is formed with a recess extended inwards. An outer sides thereof is formed with inserting holes 26a, 26b.

The lamp frame 3 is a metal L shape long plate which is painted with paints. The lamp frame 3 is installed below the mask 1 and is formed with a hollow space S with the two plane 12 and the vertical surface 13. Two screws 32 serve to combine two ends of a bottom plate 3a of the lamp frame 3 to the two clamping seat 2a, 2b, namely, the screws 32 screw into the small holes 27 at the bottom of the clamping seats so that the clamping seats can be assembled and detached easily. Furthermore, a lamp tube 31 is installed at a front side of a straight plate 3b of the lamp frame 3. The lamp tube 31 is fixed by two clamping seats 33 in front of the straight plate 3b. Moreover, a power switch 75 is installed at a predetermined position of the bottom plate 3b for controlling the illumination of the lamp tube 31.

The reflecting mask 4 has a long shape with painting with metal paint. The reflecting mask 4 has a wide flat plate 41 with a short sloped plate 42.

The reflecting mask 4 is adhered to the plane 12 and the inclined surface 11 and is above the lamp tube 31. Thereby, under the condition of preferred light and heat energy, the two sides of the reflecting mask 4 are combined to the plane 12 by rivets 43 (or screw).

The transparent plate 5 is a glass plate. Two rear corners of the transparent plate 5 are fixed by respective clamping blocks 51. Each clamping block 51 is extended with a stud 52 which is pivotally installed to the trench 24 of the respective clamping seat 2. Therefore, when the transparent plate 5 rotates upwards to a horizontal orientation (referring to Fig. 6). It is only necessary to move forwards so as to make the front two edges of the transparent plate 5 move into the recess 25 to retain in a horizontal position.

The circuit box 6 is installed in a hollow space S for voltage transformation. Two ends of the circuit box 6 are connected to the receptacles 26a, 26b; lamp tube 31 and power switch. When it is necessary to update the circuit box 6, it is only necessary to detach the two screws 32 below the lamp frame 3 so that the two clamping seats 2a, 2b separate from the lamp frame 3 to update the circuit box 6. Thereby, the operation is very convenient.

With reference to Fig. 7, when it is desired to update the lamp tube 31, it is only necessary to push the transparent plate 5 backwards, as shown by the arrow, so that two front sides thereof separate from the recess 25 of the mask 1 so as to release the transparent plate 5 from the recess 25. Then the transparent plate 5 can swing downward along the stud 52. When it rotates through 90 degrees, the lamp tube 31 exposes out to be assembled and detached easily, as shown in Fig. 8.

With reference to Fig. 9, a schematic view showing the circuit arrangement of the present invention is illustrated. It is illustrated that two conductive wires 71, 72 are arranged between the two receptacles 26a, 26b. One end of the circuit box 6 has two parallel conductive wires 73, 74 which are connected

to the two conductive wires 71, 72, respectively. Another end of the circuit box 6 has two conductive wires 76, 77 for supplying power to one end of the lamp tube 31. Another end of the lamp tube 31 is connected to the circuit box 6 through the conductive wires 78, 79 so as to form a loop. Besides, a power switch 75 is installed on the conductive wire 74 for actuating the circuit.

When the cabinet lamp 10 is used singly, it is only necessary to conduct the cabinet lamp through anyone of the clamping seats 26a, 26b. When the power switch 75 is actuated, the lamp tube 31 lights up. Since two sides of the cabinet lamp 10 have power sources, it is convenient in assembly and application.

With reference to Fig. 10, when a plurality of cabinet lamps 10 are used, the wire 8 is used to serially connect the receptacles 26a, 27b. Thereby, a plurality of cabinet lamps uses the same power source so as to simplify the installation of the power wire.

With reference to Fig. 11, another embodiment of the present invention is illustrated. In above embodiment, the lighting body is a long lamp tube. In this embodiment, a halogen lamp 9 is used as an example. A round halogen lamp 9 is fixed in front of a straight plate 3b of the lamp frame 3. The halogen lamp 9 is inserted into the lamp seat 91. Thereby, in the present invention, different kinds of lamps can be used, such as light emitting diodes are also suitable. Moreover, in the present invention, more than one halogen lamps 9 can be used. Thereby, the wide flat plate 41 of the reflecting mask 4 is suitable for various lighting body, including halogen lamp 9, lighting emitting diode or fluorescent lights. Thereby, the prior art condition that the cambered reflecting mask cannot be used in necessary conditions is avoided. Moreover, each halogen lamp 9 can match with a reflecting mask. Thereby, the manufacturing and machining costs are saved as using the present invention.

With reference to Fig. 12, a schematic view showing the circuit arrangement of the halogen lamp of Fig. 11 is illustrated. The difference of this embodiment from that disclosed in Fig. 9 is that in this embodiment, the halogen lamp 9 is used to replace the fluorescent light. The wire arrangement is same as the former one. Thereby, the details will not describe further. The halogen lamp 9 used in the present invention includes JC, JCD and Xenon bulbs which are all suitable in the present invention. The JC and Xenon need to use with a stabilizer (in the circuit box 6), but the JCD is not used with a stabilizer.

The present invention is thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the present invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.